Yavapai County, Arizona Earthquake Country

“Earthquake jars area; no damage”, read the headline in the February 4th 1976 Prescott Courier. While damage from the magnitude (M) 5.1 earthquake in Chino Valley, Arizona, was minor, canned goods and flower pots flew off shelves, and one person thought the boiler in her neighbor’s home blew. Reports of ground shaking came from as far south as Tucson and as far east as Holbrook.

Since 1870, Yavapai County reported more than 222 earthquakes, including 13 tremors of M3.0 or larger. In 2011, with improved seismic monitoring, no fewer than 16 earthquakes were noted. The largest was a M3.7 tremor north of Clarksdale on 18 March; on 23 January an M3.6 event occurred west of Sedona. Most earthquakes were shallow – at depths of 1 to 2 miles, while several events occurred in the mid-crust, 15 to 18 miles deep.

How to prepare for and survive an earthquake

For More Information ...
Yavapai County Office of Emergency Management
1100 E. Commerce Dr.
Prescott, AZ 86305
928-771-3321
yavapai.az.gov/emergencysvcs

Online Earthquake Resources
Arizona Geological Survey
www.azgs.az.gov

Arizona Earthquake Information Center
www.cefns.nau.edu/org/aeic

IRIS - Incorporated Research Institutions for Seismology
http://www.iris.edu/hq/

USGS Earthquake Hazards
earthquake.usgs.gov

Earthquake Hazards 101 (USGS)
http://earthquake.usgs.gov/hazards/about/basics.php

IRIS Earthquake Consortium
www.iris.edu

Acknowledgments. Funds for brochure design and printing provided by the National Earthquake Hazard Reduction Program (NEHRP) to Arizona Geological Survey’s AZ Shakes Earthquake outreach program.


Essential Web Contacts
Yavapai County Emergency Management
www.regionalinfo-alert.org
FEMA Ready page
www.ready.gov
American Red Cross
www.redcross.org/safeandwell

Emergency Alert Stations
KAHM 102.1 FM
KKLD 95.9 / 101.7 FM
KYBC 1600 AM
KYCA 1490 AM
KYRD 105.7 FM

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Exposure of the Little Chino fault zone in a roadcut. Red soil layers have been displaced down to the left across several small faults (black lines).

Recent Activity
On Tuesday, 25 October 2011, a M3.5 earthquake occurred roughly 20 miles north of Prescott, Arizona. The U.S. Geological Survey put the focus – i.e. depth – at about three miles. More than 600 people from central Arizona reported the tremor to the U.S. Geological Survey’s online “Did you feel it” site. In the Prescott courthouse, people reported feeling a sharp jolt and were sufficiently concerned that they considered evacuating the building.
Foremost Earthquake Hazard in Yavapai County

The Big Chino fault may be the most potent fault in Yavapai County. It strikes northwest-southeast and parallels Big Black Mesa, northwest of Paulden, for nearly 35 miles. It is capable of producing an earthquake with a potential maximum magnitude of M6.5 to M7.2. Fortunately, large magnitude earthquakes recur infrequently -- on the order of every 20,000 to 30,000 years.

To the south, the 6 mile long Little Chino fault, capable of a ~M6 earthquake, picks up where the Big Chino fault ends.

Earthquake Preparation

Before an Earthquake

Secure your space
• Secure heavy unstable objects
• Put latches on cabinet doors
• Keep breakables on bottom shelves

Create a disaster preparedness plan
• Maintain a 72-hour emergency food, water and supply kit
• Plan where your family will meet
• Establish safe zones in your home

During an Earthquake

• If inside – DROP, COVER & HOLD ON
• If outdoors – move away from buildings, power lines and trees
• If driving – pull over to the roadside; avoid over passes and power lines

After an Earthquake

• Be prepared for aftershocks
• Follow your disaster preparedness plan!
• Alert out-of-area contacts, but then stay off the phone
• Use a radio to follow updates and safety advisories
• Check for water and gas leaks, if damaged turn off
• Assist your neighbors

Stringent building codes in Prescott and Yavapai County assure that newer buildings are more earthquake-resistant than older buildings, but falling objects indoors (light fixtures, appliances, cabinets, pictures) and outdoors (building parapets, signage, exterior decorations) can pose a threat at any building.

Severe ground shaking can cause landslides, initiate gas or electrical fires, and disrupt and damage canals and dams, too.

Seismologists are fond of saying “earthquakes don’t kill people, buildings kill people”. In central Arizona, ground shaking from earthquakes can be severe enough to damage or collapse buildings, bridges, roads, utilities, and water and gas lines.

Disaster Supply kits

Following any natural disaster – earthquake, hurricane, flood, or fire – electrical, gas, and water services may be temporarily offline. To meet that challenge, every household should prepare a disaster supply kit to sustain the household for three days - a 72-hour disaster kit. Each family member should prepare a personal disaster kit comprising essential medicines, personal identification, list of telephone contact numbers, and snack foods.

Household disaster kit checklist

• Drinking water (~ 1 gallon per person per day.)
• First aid supplies, medications and hygiene items –soaps, toothpaste, toilet paper
• Emergency lighting – flashlights with extra batteries (avoid open flames)
• Hand-cranked or battery-operated radio canned and packaged foods and basic cook utensils
• Warm clothing, blankets, sturdy shoes
• Heavy-duty plastic bags for storing waste or as cover from rain
• Work gloves and basic tools (wrench, hammer, screwdrivers)
• Copies of vital documents – insurance policy, personal identification
• Ensure that you have food, water, and medication if needed for pets.

Big Chino Fault and Little Chino Fault. Orange spheres represent historical earthquake epicenters.